

CLAIMS

1 17. (canceled)

1 18. (currently amended) Apparatus for generating a transmission signal in a frequency band,
2 the apparatus comprising:

3 a compensating filter;

4 an amplifier connected downstream of the compensating filter; [[and]]

5 a transmit filter connected downstream of the amplifier, wherein:

6 the amplifier is adapted to amplify an outgoing signal;

7 the transmit filter is adapted to filter the amplified outgoing signal to suppress parts of the
8 amplified outgoing signal outside of the band for the transmission signal; and

9 the compensating filter is adapted to alter the outgoing signal to reduce one or more
10 features generated by the transmit filter within the band in the transmission signal;

11 a first sampler connected downstream of the transmit filter and adapted to sample the
12 transmission signal generated by the transmit filter to generate a first feedback signal prior to transmission
13 of the transmission signal; and

14 a feedback path connected between the first sampler and the compensating filter and adapted to
15 provide the first feedback signal to the compensating filter, wherein:

16 the compensating filter is adapted to alter the outgoing signal to reduce the one or more
17 features based on the first feedback signal.

1 19. (canceled)

1 20. (currently amended) The invention of claim [[19]] 18, wherein:

2 the compensating filter is adapted to operate at baseband;

3 the amplifier and the transmit filter are adapted to operate at a non-baseband transmission
4 frequency;

5 the apparatus further comprises:

6 an upconverter connected between the compensating filter and the amplifier and adapted
7 to convert the outgoing signal from baseband to the transmission frequency; and

8 a downconverter connected between the first sampler and the compensating filter in the
9 feedback path and adapted to convert the first feedback signal from the transmission frequency to
10 baseband.

1 21. (currently amended) The invention of claim [[19]] 18, further comprising a linearizer
2 connected upstream of the amplifier and adapted to predistort the outgoing signal to reduce distortion
3 introduced into the transmission signal by the amplifier.

1 22. (previously presented) The invention of claim 21, wherein the linearizer is connected to
2 receive the first feedback signal and adapted to predistort the outgoing signal to reduce distortion
3 introduced into the transmission signal by the amplifier and by the transmit filter.

1 23. (previously presented) The invention of claim 21, further comprising:
2 a second sampler connected between the amplifier and the transmit filter and adapted to sample
3 the amplified outgoing signal to generate a second feedback signal;
4 a switch connected to receive the first and second feedback signals and adapted to provide a
5 selected one of the first and second feedback signals to the linearizer and to the compensating filter.

1 24. (previously presented) The invention of claim 21, further comprising a correcting filter
2 connected to receive the first feedback signal and adapted to correct the first feedback signal as used by
3 the linearizer for a roll-off effect in the characteristic of the transmit filter.

1 25. (currently amended) The invention of claim [[19]] 18, further comprising a transmit band
2 cover filter connected in the feedback path between the first sampler and the compensating filter.

1 26. (previously presented) The invention of claim 18, wherein the one or more features
2 comprise at least one of a phase ripple, an amplitude ripple, and a group delay variation of the transmit
3 filter within the band.

1 27. (previously presented) The invention of claim 26, wherein the one or more features
2 comprise the phase ripple of the transmit filter within the band.

1 28. (previously presented) The invention of claim 26, wherein the one or more features
2 comprise the amplitude ripple of the transmit filter within the band.

1 29. (previously presented) The invention of claim 26, wherein the one or more features
2 comprise the group delay variation of the transmit filter within the band.

1 30. (previously presented) The invention of claim 26, wherein the one or more features
2 comprise at least two of the phase ripple, the amplitude ripple, and the group delay variation of the
3 transmit filter within the band.

1 31. (previously presented) The invention of claim 30, wherein the one or more features
2 comprise the phase ripple, the amplitude ripple, and the group delay variation of the transmit filter within
3 the band.

1 32. (previously presented) The invention of claim 18, further comprising:
2 an antenna connected downstream of the transmit filter and adapted to transmit the transmission
3 signal from the apparatus and receive a received signal transmitted to the apparatus;
4 receiver circuitry adapted to process the received signal; and
5 a diplexer connected to allow the transmission signal to pass from the transmit filter to the
6 antenna and the received signal to pass from the antenna to the receiver circuitry.

1 33. (canceled)

1 34. (currently amended) A method for generating a transmission signal in a frequency band,
2 the method comprising:
3 amplifying an outgoing signal;
4 transmit filtering the amplified outgoing signal to suppress parts of the amplified outgoing signal
5 outside of the band for the transmission signal;
6 sampling the transmission signal to generate a feedback signal prior to transmission of the
7 transmission signal; and
8 altering the outgoing signal based on the feedback signal, prior to amplifying the outgoing signal,
9 to reduce one or more features generated by the transmit filtering within the band in the transmission
10 signal.

1 35. (previously presented) The invention of claim 34, wherein the one or more features
2 comprise at least one of a phase ripple, an amplitude ripple, and a group delay variation of the transmit
3 filter within the band.

1 36. (currently amended) Apparatus for generating a transmission signal in a frequency band,
2 the apparatus comprising:

3 means for amplifying an outgoing signal;
4 means for transmit filtering the amplified outgoing signal to suppress parts of the amplified
5 outgoing signal outside of the band for the transmission signal;
6 means for sampling the transmission signal to generate a feedback signal prior to transmission of
7 the transmission signal; and
8 means for altering the outgoing signal based on the feedback signal, prior to amplifying the
9 outgoing signal, to reduce one or more features generated by the transmit filtering within the band in the
10 transmission signal.

1 37. (previously presented) The invention of claim 36, wherein the one or more features
2 comprise at least one of a phase ripple, an amplitude ripple, and a group delay variation of the transmit
3 filter within the band.

1 38. (new) The invention of claim 34, further comprising predistorting the outgoing signal
2 based on the feedback signal, prior to amplifying the outgoing signal, to reduce distortion introduced into
3 the transmission signal by the amplifying and the transmit filtering.

1 39. (new) The invention of claim 36, further comprising means for predistorting the
2 outgoing signal based on the feedback signal, prior to amplifying the outgoing signal, to reduce distortion
3 introduced into the transmission signal by the means for amplifying and the means for transmit filtering.